

From the
 INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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PCT

AUG 30 2004

RECEIVED WRITTEN OPINION
 (PCT Rule 66)

Date of mailing
 (day/month/year) 27.08.2004

Applicant's or agent's file reference
 TIMK 8429WO

REPLY DUE within 1 month(s) and 15 days
 from the above date of mailing

International application No.
 PCT/US 03/22135

International filing date (day/month/year)
 16.07.2003

Priority date (day/month/year)
 17.07.2002

International Patent Classification (IPC) or both national classification and IPC
 G01P1/00

Applicant
 THE TIMKEN COMPANY et al.

1. This written opinion is the **second** drawn up by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application
3. The applicant is hereby **invited to reply** to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4.
 For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
 For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 17.11.2004

Name and mailing address of the international preliminary examining authority:



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Response
 Due Date: 10/12/04
 Docket Entry Date:
 Docketed By: me
 Reviewed By:

I. Basis of the opinion

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*):

Description, Pages

1-9 as originally filed

Claims, Numbers

1-15 received on 26.03.2004 with letter of 26.03.2004

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

6. Additional observations, if necessary:

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	
Inventive step (IS)	Claims	1-15
Industrial applicability (IA)	Claims	

2. Citations and explanations
see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: EP0694765 (MAGNETI MARELLI FRANCE) 31 January 1996 (1996-01-31)

D2: DE 100 34 844 A (DELPHI TECH INC) 12 April 2001 (2001-04-12)

The document D1 was not cited in the international search report. A copy of the document is appended hereto.

1. Added subject matter

The amendments filed with the letter dated 26.03.2004 introduce vague expressions which have not been present in the original application:

- claim 1: *...the screw...when in the slot, will interfere ...*
- claims 9,15: *...sacrificial extension...;*
- claims 1,10,12: *...supporting structure....*

Claim 1 further omits the feature of the original claim 1, that the deformation is *imparted to the housing along the slot*.

The amendments introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT.

2. Clarity

2.1 Claim 1 is not clear as it contains result-to-be-achieved features:

- *...the slot configured to receive the screw...;*
- *...such that the deformation can receive the screw...and enable the sensor to be located in the same position...if it is removed.*

The claim does therefore not meet the requirement of Article 6 PCT.

The sensor has to be described by structural features.

2.2 Claims 3,4,6,7 are not clear as they describe a rim having an indentation.

However, according to claim 2, the rim is of a deformable material (device before installing process of claim 12).

The indentation only being the result of the installing process of claim 12, it is not clear

which device is to be claimed

Claims 6,11 further mention the feature of **the housing** having indentations, which feature is not supported by the description.

2.3 Independent method claim 11 mentions *a process reinstalling the sensor set forth in claim 10* This reference is not clear, as claim 10 is an apparatus claim.

2.4 Independent method claim 12 lists the feature, that *...the mounting surface is located at a substantial angle with respect to the axis of rotation...*

This feature is unclear as the angle is not defined. The expression *steep angle* used in the description on page 4, line 6 has also to be used in claim 12.

3. Novelty

The present application meets the criterion of novelty of Article 33(1),(2) PCT as far as this can be assessed in the view of the above mentioned lack of clarity .

3.1 The document D1 discloses (see figure 5; column 8, lines 2-4) (the references in parentheses applying to this document):

- a sensor with a housing comprising a (retainer having a) slot (for a mounting screw);
- the (rim of the) slot ("oeillet (732)") being formed from a deformable material ("bride (730) est venue de moulage... de matière thermoplastique");
- the sensor located in said housing producing a signal reflecting the angular velocity of an adjacent rotating target.

D1 does not explicitly disclose the mounting screw having a threaded shank and a head.

D1 does not explicitly mention the permanent deformation (of the rim of the slot), which allows the sensor to be located in the same position when it is to be reinstalled after removal.

Claim 1 appears therefore to be new over D1.

D2 (see column 5, line 29 - column 7, line 6; column 9, lines 5-30; figures) also does not show the above differing feature of the permanent deformation (of the rim of the slot) and claim 1 appears therefore to be also novel over D2.

3.2 Independent method claim 11 refers to a reinstallation method for the sensor of claim 1, which method is making use of a previously imparted permanent deformation in the rim of the slot (as mentioned in claim 1) in order to bring the sensor into its former position.

D1 and D2 do not explicitly disclose this feature and claim 11 is therefore also novel.

3.3 Independent method claim 12 describes the installation process for the sensor of claim 1, during which said permanent deformation in the rim of the slot is to be imparted.

As D1 and D2 do not explicitly disclose this feature, claim 12 is therefore also novel.

4. Inventive step

4.1 As far as it can be assessed in the view of the above mentioned lack of clarity the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, 11, 12 does not involve an inventive step in the sense of Article 33(3) PCT.

The present invention makes use of the property of a plastically deformable rim of a slot of a sensor retainer ear, according to which a mounting screw screwed in during the installation procedure will create an indentation in the soft rim of the slot.

This indentation remains as a trace, when the screw is to be removed.

Upon reinstallation of the sensor this trace can be used to bring the sensor retainer ear and thus the sensor into its former position.

The problem to be solved by the invention is therefore an improved method for reinstallation of a sensor at a defined position and the provision of a sensor being adapted for that method.

The same technical effect, of creation of an indentation in the slot rim being made of a soft material (e.g. a moulded polymer) by the head of a mounting screw will occur to all sensor retainers of a plastically deformable material during their normal use (installation / dismounting / reinstallation). This effect is immediately visible and not surprising. It does not exceed the ordinary skills of the person skilled in the art, to use this visible sign of the former installation position when he needs to position the sensor at the same location and to introduce the mounting screw at this very position of the

indentation of the rim of the slot of the retainer ear.

The sensor of D1 (see passages as cited above) may serve as one example for a sensor having a slotted retainer ear of a plastically deformable material, where the described technical effect will occur, although not being explicitly mentioned.

The solution proposed in independent claims 1,11,12 of the present application can therefor not be considered as involving an inventive step (Article 33(3) PCT).

4.2 Dependent claims 2-10 and 13-15, as far as they could be interpreted regarding their lack of clarity also do not seem to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

5. Further remarks

5.1 Independent claims 1,11,12 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

5.2 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).